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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/743,562

12/22/2003

Renuga Gopal

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12/10/2007

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SUITE 1300

DAYTON, OH 45402-2023

EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

12/10/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/743,562	<b>Applicant(s)</b> GOPAL ET AL.	
	<b>Examiner</b> MATTHEW J. DANIELS	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14 and 17-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 17-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. The oath/declaration filed on 28 September 2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Bachmann reference.
2. The oath/declaration is ineffective for at least the following reasons:
  - a) The oath/declaration does not include all of the inventors of the subject matter claimed (See MPEP 715.04). The oath/declaration states that this was "Our work" (Par. 4), indicating that individuals other than declarant were involved in developing the claimed subject matter.
  - b) Although the declaration states that the declarant was a student at the National University of Singapore (Par. 2), the declaration does not state that that the inventive activity occurred in either the United States or a WTO member country (See MPEP 715).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim rejections set forth previously are maintained.
4. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bachmann (WO 02/30647 with the translation of FR 2815352 used as an English-language equivalent. Citations

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are from the translation of FR 2815352) in view of Sharrow (USPN 3164888). **As to Claim 21**, Bachmann teaches a method of forming a fiber reinforced composite, comprising:

placing a composite of fiber and resin in an elongate tunnel of a shrinkable die formed of a heat-sensitive material that shrinks in response to heat (Translation, pages 3 and 4);

shrinking the die by heating the die to reduce the transversal cross-section of the tunnel along a longitudinal extent of the tunnel so as to compress the composite of fiber and resin to assume a transversal cross-sectional shape defined by said tunnel of said die (page 7, middle of page, Fig. 17); and

curing the composite of fiber and resin (page 10, top half).

5. **Claims 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharrow (USPN 3164888) in view of Moraschetti (USPN 4076377). **As to Claim 21**, Sharrow teaches:

placing straight fiber (Fig. 1) and in an elongate tunnel of a shrinkable die formed of a heat-sensitive material that shrinks in response to heat (Fig. 1, items 5-10, 2:35-70), the tunnel having a predefined transversal cross-sectional shape (round);

shrinking the die by heating it to reduce the cross section of the tunnel in the longitudinal direction so as to compress the fibers to assume the predefined shape (2:35-70 and 4:1-8);

wherein the tunnel retains the predefined shape and shrinks uniformly in cross-sectional area when shrunk (implicit in that the tunnel is round before and after shrinking, Figs. 1-3).

Sharrow is silent to the placing of a fiber composite and curing of the composite.

However, Moraschetti teaches placing fibers in a tube with a curable agent (5:10-22).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Moraschetti into that of Sharrow because (a) Sharrow would find it desirable to avoid patching and taping of the coil bends due to abrasion (1:67-70) and the curable material of Moraschetti would provide enhanced protection to the embedded material, further improving the abrasion resistance, and (b) Sharrow suggests immobilizing the fibers by embedding the Coils in a shellac (3:55-60), and Moraschetti's curable material would function as an encapsulant in the same manner as the shellac of Sharrow.

### *Response to Arguments*

6. Applicant's arguments filed 28 September 2007 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

- a) The rejection over Bachmann should be withdrawn in view of the declaration under 37 CFR 1.131.
- b) The combination would render Sharrow unsatisfactory for its intended purpose because Sharrow discloses the tube to tightly grasp the bundle. Inserting a lubricant with the bundle would prevent tight grasping, and Moraschetti teaches that this lubricant would lead to a mutual gliding motion of the adjacent fibers.
- c) Regarding the motivation, Sharrow already provides sufficient protection and abrasion resistance, and one would not have been motivated to make the combination. Additionally, Sharrow discloses a common insulating treatment which is applied on the outside of the tube. There is no motivation to insert the lubricating agent before the formation of the coil.

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7. These arguments are not persuasive for the following reasons:

a) The declaration does not comply with formal requirements, and therefore is ineffective to overcome the rejection. There are no substantive arguments against the combination.

b) The shrink tubing of Sharrow provides radial contraction to grasp the bundle. It is submitted that an uncured material would not, therefore, prevent tight grasping in the radial direction. To the contrary, in allowing rearrangement of the fibers, the combination including the curable lubricant of Moraschetti would provide the most compact packing and tightest grasp of the bundle.

c) Rearrangement of the order of steps is generally known to be prima facie obvious, and therefore the particular order of placement of the materials would be insufficient to overcome the rejection in the absence of unexpected results. In view of Moraschetti's teachings, it is submitted that one practicing the method of Sharrow would have found it obvious to rearrange the process steps of coating and shrinking of tubing to provide a lubricating and embedding action also within the bend regions in order to better immobilize those portions:

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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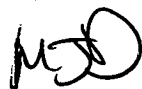
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJD 12/4/07

  
CHRISTINA JOHNSON  
SUPERVISORY PATENT EXAMINER